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Psychological Biases and its Impact on Trading Behaviour

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ABSTRACT

This paper aims to study the impact of psychological biases on trading behavior. Based on past literature eight most influential biases were chosen. The presence of these biases was proposed to be studied by collecting responses to statements on trading behavior incorporating these biases. Respondents were investors who held demat accounts and traded in shares. These biases were measured using weighted mean scores. Exploratory factor analysis was undertaken to extract behavioural factors influencing trading in shares. Then discriminant analysis was done to study how these factors discriminate different categories of traders based on frequency of trading.

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INTRODUCTION

The traditional efficient market hypothesis in finance which was for a long time used by practitioners to understand the market states that prices are perfect indicators of a share's true value and therefore nobody can make abnormal returns over and above the returns generated by the market. In making this statement the theory assumes that investors are rational. Rationality here means that all participants in the market, process information correctly and make perfect investment choices. This assumption underlying the efficient market theory is highly questionable. The world is not perfect and there are real people in this world who may not be such rational agents at all times.

With all these anomalies prevailing, the finance discipline needed a theory that is more realistic and would help, not only in understanding the markets but also the behavior of market participants. These pitfalls gave rise to a newer concept called 'Behavioral Finance' which is also called as 'open-minded finance'. It is a field which helps in understanding financial markets by using models in which some of the agents are not fully rational. It is a field which takes into consideration psychology of people who form the market. Thus it takes into account, emotions like greed and fear that reign the market. This field is about recognizing the influence of psychology on one's own self and on the financial environment at large.

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The success of this field lies in the fact that there are a number of papers highlighting that, in a market where both rational and irrational agents participate irrationality can have a substantial and long-lived impact on prices. Also several researchers have attempted to find out what psychological factors affect investment behavior.

The two building blocks of behavioral finance are 'limits to arbitrage' and extensive experiment evidence compiled by cognitive psychologist on the 'systematic biases' that arise when people form their beliefs. There are primarily two risks involved in the process of arbitrage. One is the fact that prices may fall further and the other is that it may be difficult for the arbitrageurs to find a substitute at its true value. The other building block which is the psychology of the investing population also demands considerable attention in understanding the markets. People while forming beliefs tend to get emotional at times. They also follow some thumb rules otherwise called heuristics while taking decisions. This ultimately leads to irrational decisions. The psychological biases that influence investment decisions which are considered in the study are overconfidence, representativeness, conservatism, anchoring, mental accounting, and availability bias. An overview of the psychological biases is as follows:

Anchoring: Anchoring is a tendency for individuals to quantitatively judge by subconsciously attaching to some initial figure without knowing whether it is reliable or not. Investors start out with information that leads them to form their initial beliefs and respond too conservatively to new information and do not adjust sufficiently.

Loss Aversion: Kahneman and Amos Tversky (1979) studied how people respond to the prospect of a loss. According to them, in a situation where you can choose to take the guaranteed loss or take a chance, most people opt for the latter because they hate to lose. They find that a loss has about two and a half times the impact of a gain of the same magnitude. They call this phenomenon 'loss aversion'.

Overconfidence: Overconfidence in investments refers to a 'know it all situation' where people set overly narrow confidence intervals and are too often surprised by change in situations.

Availability Bias: This is a case where people place undue weight on easily available information without considering the informational content and the significance of the information in relation to the problem or situation on hand.

Ambiguity Aversion: Ambiguity aversion is fear of the unknown. Individuals prefer the familiar to the unfamiliar. Trading in stock markets is dealing with uncertainties.

Frame Dependence: In a landmark work on Prospect Theory, a descriptive framework for the way people make choices in the face of risk and uncertainty, Daniel Kahneman and Amos Tversky(1972) provide evidence of frame dependence. The form used to describe a decision problem is called its frame. Proponents of traditional finance assume that framing is transparent. This means that practitioners can see through all the different ways in which profits can be made. However in reality many frames are rather opaque.

Representativeness: This refers to a tendency of decision makers to make decisions based on stereotypes, that is, to see patterns where none exist. The principle of representativeness was proposed by psychologists Daniel Kahneman and Amos

Tversky (1972) and analysed in a series of papers reproduced in the collection edited by Kahneman, Slovic and Tversky (1982).

Mental Accounting: Mental accounting is an investment bias where the investors rather than considering an overall portfolio return, makes separate accounts with respect to each investment in their mind.

1.1 Literature Survey

Tverksy and Kahneman (1973) introduced the availability heuristic in which a person evaluates the frequency of classes or the probability of events by availability, that is, the ease with which relevant instances come to mind. This leads to systematic biases.

Kahneman, Slovic and Tversky (1982) in their paper have discussed various judgmental heuristics and the biases they produce.

Thaler (1985) developed a new model of investor behavior involving mental accounting.

Camerer and Lovallo (1999) have experimentally found that optimism and overconfidence leads to excessive entry of new and retail investors in the stock market.

Hong and Stein (1999) developed a model consisting of two groups of boundedly rational agents. One group was called 'news watchers'and the other group was called 'momentum traders'. They concluded that these two groups lead to under reaction in the short horizon and over reaction in the long horizon.

Huberman (2001) has provided compelling evidence that people have an attitude to invest in familiar stocks and thereby very often ignore the principles of portfolio theory.

Merikas (2003) analysed factors influencing Greek investor behavior on the Athens Stock Exchange. He found that Greek investor's purchase decisions are based on economic criteria combined with other diverse variables. He also found that there is a certain degree of correlation between behavioural factors and economic factors that influence average equity investor behavior.

Abijeet Chandra and Ravinder Kumar (2005), surveyed individual investors and identified the psychological and contextual factors that influence investor behavior. They arrived at five major psychological factors that influence investor behavior in the Indian stock market.

Mbaluka, Muthama and Kalunda (2012) stated that the decision of investors vary according to the frame in which the problem is presented to them.

Chin (2012) surveyed individual investors of Malaysia and concluded that investors feel regret when buying at higher prices and are to sell at lower prices and in order to prevent such situations, hold losers too long thereby exhibiting regret aversion.

Deepa Mangala and Mamta Sharma (2014) presented in their paper an in-depth review of literature of prominent studies in the area of behavioural finance.

1.2 Purpose of the Study

The field of behavioral finance unlike traditional finance could provide excellent insight about how markets having both rational as well as irrational agents are functioning. This helps policy makers, the corporate world and all other stakeholders to get a better understanding of their markets and thereby be in an advantageous position as regulators, arbitrageurs or participants. From an individual investor's point of view also, this study helps in determining the presence of psychological biases in the process of making optimal investment decisions.

1.3 Objectives of the Study

1. To understand and measure the psychological biases relating to trading behavior in the stock market.
2. To identify the behavioral factors that emerge out of the psychological biases.
3. To study those behavioral factors that best discriminate different categories of traders based on their trading frequency.

METHODOLOGY

Eight most influential biases were taken based on past literature and statements to establish the presence of the same were included in the questionnaire along with select demographic variables, which were considered essential for the study. The methodology is discussed in this section.

Target Population: Respondents were those who maintained demat accounts and traded in shares. For the purpose of the study the term 'investors' and 'traders' are used synonymously.

Sampling Technique: Data was collected on stratified basis. Two stage stratified random sampling technique was employed for sample selection. Out of the metropolitan cities in India, two cities namely Mumbai and Chennai were selected. The second stage of selection was made based on the frequency of trading.

Sample Size: The final sample settled at 344 which represent a response rate of 68.8% which was considered as reasonable for this type of study.

Questionnaire: Survey of relevant literature revealed the biases that influence investor behavior. Statements to measure these biases were then drawn from different sources. These statements along with questions to measure demographic variables were included in the questionnaire. Expert opinion was sought from academicians and practitioners. Certain statements were modified and used for the purpose of the study. The questionnaire consisted of two sections with 50 questions. Likert's five point scale was used in studying the responses which ranges as follows: 5-strongly agree, 4-agree, 3-neutral, 2-disagree,1- strongly disagree. This scaling allowed for the standardisation of results and made it easy for the respondents to answer the questionnaire.

Reliability of the Instrument: The scales for this study had a certain amount of reliability with a Cronbach's alpha value of 0.776.

STATISTICS OF SURVEY RESPONDENTS

The following table shows the summary statistics of survey respondents who held demat account and traded in shares.

Table 1: Profile of Respondents

Particulars	Count	Percentage
Gender		
Male	326	94.50
Female	18	5.51
Age		
Below 25 years	19	5.51
26 - 35 years	104	30.14
36 - 45 years	72	20.86
46 -55 years	124	35.94
Above 55 years	25	7.53
Educational Qualification		
Lesser than Graduation	49	14.20
Graduate	63	18.26
Post Graduate	60	17.39
Professional	120	34.78
Degree in finance or related fields	52	15.37
Occupation		
Government	23	6.67
Private	61	17.68
Business	148	42.89
Others	112	32.75
Annual Income		
Below Rs.500000	16	4.63
Rs.500000 to Rs.1000000	109	31.59
Rs.1000001 to Rs.1500000	94	27.24
Rs.1500001 to Rs.2000000	74	21.45
Above Rs.2000000	51	15.36
Investment Value as on date		
Below Rs.100000	43	12.5
Rs.100001 to Rs.300000	95	27.61
Rs.300001 to Rs.500000	159	46.22
Rs.500001 to Rs.700000	26	7.55
Above Rs.700000	21	6.10
Trading Experience		
Below 3 years	65	18.84
3 to 5 years	155	44.92
5 to 7 years	64	18.55

Particulars	Count	Percentage
7 to 9 years	43	12.46
Above 9 years	17	5.21
Frequency of trading		
Daily	27	7.84
Weekly	24	6.97
Monthly	78	22.67
Few times in a year	137	39.8
Once in a year	78	22.67

The following table gives the overall weighted mean scores and standard deviation for each of the biases

Table 2: Weighted Mean Scores and Standard Deviation for the Psychological Biases

S. No.	Psychological Biases	Weighted Mean	Rank	Standard Deviation
1	Anchoring	3.07	7	1.17
2	Loss Aversion	3.60	2	1.02
3	Overconfidence	3.39	3	1.08
4	Availability Bias	3.30	5	1.31
5	Ambiguity Aversion	3.65	1	1.01
6	Frame Dependence	3.37	4	1.16
7	Representativeness	3.30	5	1.21
8	Mental Accounting	3.03	8	1.29

The weighted mean scores for all the eight psychological biases is more than three which goes to prove that all these biases are present in the sample respondents. Ambiguity aversion has the highest score followed by loss aversion then over confidence followed by frame dependence. Fifth is representativeness and availability bias followed by anchoring and last is mental accounting.

3.1 Factor Analysis -Behavioral Factors that Emerge Out of the Psychological Biases

In order to extract behavioral factors that emerge out of the eight psychological biases, factor analysis was applied. The Principal Component Analysis (PCA) which helps to determine the factors underlying variables that has greatest impact on the subjects was used. To determine sampling adequacy and suitability of data for factor analysis, the Kaiser – Mayer- Olkin Measure of Sampling Adequacy (MSA) and the Barlett's Test of Spherecity were applied. The KMO measure of Sampling Adequacy is a statistic that indicates the proportion of variance in the variables that might be caused by reduced factors. Kaiser (1974) recommends a bare minimum of 0.5. The following table shows the results for these tests.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.640
Bartlett's Test of Sphericity	Approx. Chi-Square	2790.555
	df	378
	Sig.	.000

A value of 0.64 KMO indicates that factor analysis would give meaningful result for the data that is used in the study. Similarly the significance value for Barlett's test of sphericity is 0.000 which indicates that there exist significant relationships among the variables. The cumulative percentage variance explained for the ten factors extracted is 67.12%. A total of ten behavioral factors were extracted through varimax rotation which converged in fourteen iterations. Following tables shows the statements and factor loadings for each of the components extracted.

Table 4: Factor One: Preference for the familiar past and analyst recommendation

Statements	Loading
Past performance of a stock is indicative of its future performance.	0.765
In the past three years stock A has given very good dividends to its investors. Therefore in future also the same trend will continue.	0.747
In the last two years the price of a particular share has gone up by 70%. Based on this information, I will consider the share worth buying.	0.605
Share A that I purchased 3 months back is currently not doing well. My investment advisor wants me to transfer funds from share A to Share B. I will do what the broker says.	0.591

Table 5: Factor Two: Skepticism, Media Driven, Excessive Trading Attitude

Statements	Loading
I prefer securities with moderate and certain returns when compared to securities with high and uncertain returns.	0.720
Stocks which attracts a lot of attention in the media are worth trading in.	0.608
The BSE Sensex has increased consecutively for the past 3 days therefore there is high probability that it will increase the next day.	0.600
When compared to other investors I consider myself more experienced and therefore trade very often.	0.553

Table 6: Factor Three: Momentum Trading, Loss Aversion and Narrow framing Attitude

Statements	Loading
I compare the current prices with their recent 2 week high and low so as to justify my stock purchase.	0.753
A share that I bought one month ago for Rs.50 is now trading at Rs.40. Next month the price will be either Rs.50 or Rs.30. Since both possibilities are equally likely it is better to hold the share for one more month and not sell it immediately.	0.618
It is better to invest in debentures of a company which has fixed rate of returns rather than investing in shares of the same company.	0.528
Two out of ten stocks in the investment portfolio has reduced in value considerably. I will treat this loss separately and not take it as loss on the entire portfolio and adjust it.	0.420

Table 7: Factor Four: Risk Aversive, Anchoring and Adjustment Attitude

Statements	Loading
I believe that the past week high and low price of a stock determines its current price movement range.	0.794
The price of a share in which I invested few months back has gone down. Broker is asking to sell at a loss and invest the funds in shares of another company.	0.707
I prefer to invest my savings for retirement in instruments with moderate guaranteed returns rather than investing in securities that offer high returns but with higher degree of risk.	0.492
I will sell a stock whose price is increasing and retain a stock whose price is decreasing.	0.440

Table 8: Factor Five: Cautious and conservative attitude

Statements	Loading
I am unlikely to buy a stock if it is more expensive than last year.	0.781
A bad news about a stock is a signal to sell off	0.604

Table 9: Factor Six: Dependence on Trend Attitude

Statements	Loading
One must avoid investing in companies with history of poor earnings.	0.704
I see the stock price as high, if the price has reached its 52 week high.	0.685
Both in a bullish and bearish market I can find an opportunity to trade	0.553

Table 10: Factor Seven: Systematic Planning Fallacy

Statements	Loading
Stocks with high P/E ratios in the past alone are worth buying.	0.756

Table 11: Factor Eight: Belief Perseverance

Statements	Loading
It is not important to consult others before taking an investment decision.	0.86
There is a portfolio of investment which consist of shares, fixed deposits, gold and real estate, out of which investment in shares have gone down in value. I will consider it to be a separate loss and will not invest in shares in the future.	0.423

Table 12: Factor Nine: Certainty effect

Statements	Loading
Stock A gives 12% per annum returns with a probability of 50%. Stock B's returns are not known. It is better to invest in stock A.	0.881

Table 13: Factor Ten: Regret Aversion, Optimism and Wishful Thinking

Statements	Loading
I am more concerned about a large loss in my stock than missing a substantial gain.	0.768
I feel more confident in my own investment opinion over the opinion of my friends and colleagues.	0.451
Whenever there is good news about a company I will invest in share of that company.	0.375

3.2 Discriminant Analysis - Factors that Best Discriminate Trading Behavior

In order to identify factors that best discriminate trading behavior discriminant analysis was done. The questionnaire had a question on how often respondents trade. The options given were daily, weekly, monthly, few times in a year and once in a year. Traders were grouped into three categories based on their trading frequency. Respondents who traded daily and weekly formed category I, those who traded monthly and few times in a year, formed category II and those who traded only once a year formed category III. The following table gives mean values for three categories of traders across ten factors.

Table 14: Mean Values for three categories of Traders with respect to the ten factors

Factor Nos	Factors	Categories		
		I	II	III
1.	Preference for the familiar past	-0.137	0.157	-0.336

	and dependence on analyst recommendation.			
2.	Skepticism, Media Driven and Excessive Trading Attitude	-0.858	0.118	0.233
3.	Momentum Trading, Loss Aversion and Narrow Framing Attitude	-0.691	0.006	0.424
4.	Risk aversive, anchoring and adjustment attitude	-0.435	0.068	-0.174
5.	Cautious and Conservative Attitude	0.554	-0.0475	0.484
6.	Dependence on TrendAttitude	0.0619	-0.132	0.311
7.	Systematic Planning Fallacy	-0.6919	0.0271	0.372
8.	Belief Perseverance	0.573	0.0943	-0.658
9.	Certainty Effect	-0.154	-0.0197	0.152
10.	Regret Aversion, Optimism and wishful thinking.	-0.191	-0.0038	-0.102

Several significant mean differences exist across the three categories of investors as seen in the above table.

Table 15: Eigen Values and Wilks' Lambda

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation	Wilks' Lambda	Chi-Square	Df	Sig.
1	1.383[a]	91.0	91.0	0.762	0.369	336.381	20	.000
2	0.137	9.0	100.0	0.347	0.879	43.350	9	.000

The canonical correlation is the multiple correlation between the predictors and the discriminant function. Canonical correlation of 0.762 indicates 91% of variance explained by function one and canonical correlation of 0.347 indicates 9% of variance explained by the function two. Multiple discriminant analysis was used to explore the degree to which respondents' behavioral attributes can predict segment membership. Both the functions given in table are significant and together explain 100% of the variance with respect to the three categories of traders. Since the chi-square statistics corresponding to Wilks' Lambda is statistically significant for the two functions, it is concluded that there exists relationship between the dependent groups and the independent variables. The above table shows an Eigen value of 1.383 for Function 1 and 0.137 for function 2. This indicates that the first discriminant function is more capable in differentiating the groups and the second discriminant function is the second most useful function.

Table 16: Standardised Canonical Discriminant Function Co-efficient

Factor No.	Factors	Functions	
		1	2
1.	Preference for the familiar past	-0.144	0.591

	and dependence on analyst recommendation.		
2.	Skepticism, Media Driven, Excessive Trading Attitude	0.597	0.498
3.	Momentum Trading, Loss Aversion and Narrow Framing Attitude	0.634	0.095
4.	Risk aversive, anchoring and adjustment attitude	-0.090	0.274
5.	Cautious and Conservative Attitude	0.603	-0.111
6.	Dependence on Trend Attitude	0.171	-0.488
7.	Systematic Planning Fallacy	0.605	0.166
8.	Belief Perseverance	-0.696	.0293
9.	Certainty Effect	0.188	-0.057
10.	Regret Aversion, Optimism and wishful thinking.	-0.177	-0.043

The standardised co-efficient for each of the ten behavioral dimensions are provided in the above table. The standardised co-efficients denote the partial correlation co-efficient of each of the constructs to the discriminant co-efficients (i.e weights) like that in multiple regression analysis. A large standardised co-efficient denotes greater contribution of the respective construct to the discrimination among the three categories of traders. Since the first function has more reliability and validity, this function is taken for the purpose of interpretation here. In Function 1 factor eight, which is 'belief perseverance', has the highest discriminant power with co-efficient 0.696 followed by factor three, which is 'momentum trading, loss aversion and narrow framing attitude' with co-efficient of 0.634, factor seven, which is 'systematic planning fallacy' with 0.605, factor five which is 'cautious and conservative attitude' with co-efficient of 0.603 and factor two which is 'skepticism media driven, excessive trading attitude' with co-efficient 0.597. The discriminant loadings presented in the following table denotes the correlation between the constructs and the discriminant function.

Table 17: Structure Matrix

Factor No.	Factor	Functions	
		1	2
1.	Preference for the familiar past and dependence on analyst recommendation.	-0.349*	0.308
2.	Skepticism, Media Driven, Excessive Trading Attitude	0.300*	0.095
3.	Momentum Trading, Loss Aversion and Narrow Framing Attitude	0.283*	0.163
4.	Risk aversive, anchoring and	0.282*	-0.109

	adjustment attitude		
5.	Cautious and Conservative Attitude	0.080*	-0.051
6.	Dependence on Trend Attitude	-0.075*	-0.039
7.	Systematic Planning Fallacy	-0.063	0.544*
8.	Belief Perseverance	0.288	0.504*
9.	Certainty Effect	0.074	-0.446*
10.	Regret Aversion, Optimism and wishful thinking.	-0.039	0.244*

*Largest absolute correlation between each variable and the discriminant function.

In the above table the discriminant loadings serve as factor loadings in factor analysis. It shows the correlation that each variable has with each discriminant function. ±0.30 is seen as cut off between important and less important variables. Thus from the table it can be inferred that factor seven which is 'systematic planning fallacy' with discriminant loading of 0.544 has the highest correlation with function 2 and highly discriminates the three categories of traders followed by factor eight which is 'Belief Perseverance' with discriminant loading of 0.504 and factor nine which is 'Certainty Effect' with discriminant loading of 0.466. In function 1, factor one that is 'preference for the familiar past and dependence on analyst recommendation' has a higher discriminant loading of 0.349 and discriminates the three groups of traders followed by factors two, three, four, five and six with lower discriminant loadings.

Table 18: Tests of Equality of Group Means

Factor No.	Factor	Wilks' lambda	F	Sig
1.	Preference for the familiar past and dependence on analyst recommendation.	0.956	7.886	0.000**
2.	Skepticism, Media Driven, Excessive Trading Attitude	0.870	25.556	0.000**
3.	Momentum Trading, Loss Aversion and Narrow Framing Attitude	0.888	21.469	0.000**
4.	Risk aversive, anchoring and adjustment attitude	0.990	1.752	0.175ns
5.	Cautious and Conservative Attitude	0.900	19.033	0.000**
6.	Dependence on trend Attitude	0.966	53.952	0.003**
7.	Systematic Planning Fallacy	0.897	19.562	0.000**
8.	Belief Perseverance	0.846	31.053	0.000**
9.	Certainty Effect	0.991	1.560	0.212 (ns)
10.	Regret Aversion, Optimism and wishful thinking.	0.992	1.532	0.260 (ns)

**significant at 1% level.ns not significant

Significance of the F tests of equality of group means, illustrated in the above table supports the results, except for factor 4 (significant value -0.175), factor nine 'certainty effect' (Sig Value 0.212) and factor ten, 'Regret aversion, optimism and wishful thinking' (Sig value 0.260) which have emerged as non significant. The rest of the seven factors have emerged significant at 1% level, indicating that the means are unequal across the three categories of traders depicting the differences among them due to their trading behavior.

Table 19: Functions at Group Centroids

Traders	Function	
	1	2
I	-2.264	-0.525
II	-0.059	0.284
III	1.644	-0.444

An examination of group centroids in above table suggests that function 1 clearly discriminates the three categories of traders.

Table 20: Classification Function Co-efficient

Factor No.	Factors	Traders		
		I	II	III
1.	Preference for the familiar past and dependence on analyst recommendation.	0.020	0.182	-0.507
2.	Skepticism, Media Driven, Excessive Trading Attitude	-1.722	0.113	0.811
3.	Momentum Trading, Loss Aversion and Narrow Framing Attitude	-1.574	-0.014	1.055
4.	Risk aversive, anchoring and adjustment attitude	0.057	0.080	-0.273
5.	Cautious and Conservative Attitude	-1.377	-0.73	1.091
6.	Dependence on Trend Attitude	-0.136	-0.159	0.502
7.	Systematic Planning Fallacy	-1.533	0.011	0.967
8.	Belief Perseverance	1.542	0.131	-1.391
9.	Certainty Effect	-0.397	0.028	0.334
10.	Regret Aversion, Optimism and wishful thinking.	0.426	0.001	-0.269
	Constant	-3.807	-1.141	-2.547

The above table shows that behavioral biases of respondent vary with the number of times they trade. Respondents who trade more frequently (category I) are high in factor two, 'skepticism, media driven, excessive trading attitude' with co-efficient of 1.722 followed by factor three 'momentum trading, loss aversion and narrow framing attitude' with co-efficient of 1.574, factor eight, 'belief perseverance' with a co-efficient of 1.542 factor seven, 'systematic planning fallacy' with co-efficient of 1.533 and factor five 'cautious and conservative attitude' with co-efficient of 1.37.

Respondents who trade once in a month (category II) are high in factor five, 'cautious and conservative attitude' with a co-efficient of 0.73 followed by factor one, 'preference for the familiar past and dependence on analyst recommendation' with a co-efficient of 0.182, factor six, 'dependence on trend attitude' with co-efficient of 0.154 and factor eight, 'belief perseverance' with a co-efficient of 0.131

Respondents who rarely trade (category III) are high in factor eight, 'belief perseverance' with co-efficient of 1.391, then factor five, 'cautious and conservative attitude' with co-efficient of 1.091, factor three, 'momentum trading, loss aversion and narrow framing attitude' with coefficient of 1.055, factor seven, 'systematic planning fallacy with co-efficient of 0.967, factor two, 'skepticism, media- driven, excessive trading attitude with co-efficient of 0.811, factor one, 'preference for the familiar past and dependence on analyst recommendation' with co-efficient of 0.507 and factor six, 'dependence on trend attitude' with co-efficient of 0.502.

Table 21: Classification Results

Categories of Traders	Predicted Group Membership						
	I		II		III		Total
I	42	82.4%	9	17.6%	0	0%	51
II	25	11.6%	146	67.9%	44	20.5%	215
III	0	0%	15	19.2%	63	80.8%	78

(a) 72% of original grouped cases correctly classified.

The examinations of classification of results table reveals that the discrimination among the three categories of traders in terms of factor 1 to 10 is successful in classifying 72% of the originally grouped respondents. Thus the behavioral factors arrived at discriminates the three categories of traders across the ten factors.

3.3 Scope for Future Research

1. Other psychological biases like regret aversion, gambler's fallacy, self-control and herd behavior can be analysed.
2. Presence of psychological biases in institutional investors can be studied and compared with that of individual investors.
3. The impact of behavioural biases on the financing and investment decisions taken by corporate managers can be studied.

CONCLUSION

People are imperfect processors of information and are frequently subject to bias and error. Psychology is hard to escape and hence touches every corner of the financial landscape. The fact that in the year 2002 Daniel Kahneman won the Nobel Prize in the field of Economic Sciences for his work on prospect theory despite being a research psychologist and not an economist shows the significance of incorporating psychological concepts in the field of finance. Thus it can be concluded that it is not always economics at work, psychology also at times plays a crucial role.

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